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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/484,331	07/10/2006	Timur P. Sarac	TIMS-024466 US CIP 1	7789

26294 7590 12/01/2016

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ART UNIT	PAPER NUMBER
3774	

NOTIFICATION DATE	DELIVERY MODE
12/01/2016	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TIMUR P. SARAC

Appeal 2013-007071
Application 11/484,331
Technology Center 3700

Before PATRICK R. SCANLON, MICHELLE R. OSINSKI, and BRADLEY B. BAYAT, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Timur P. Sarac (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 19–39, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

THE CLAIMED SUBJECT MATTER

Claims 19, 25, and 30 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter on appeal.

> 19. An endovascular apparatus comprising:
>
> a tubular sleeve having a central lumen with a cranial end, a first caudal branch, and a second caudal branch; and
>
> at least a first expandable attachment device attached to the cranial end extending circumferentially around the central lumen to hold the sleeve open and secure the sleeve to a wall of a vessel, the first attachment device being expandable from a first state to a second state and comprising:
>
> a plurality of M configuration sections, the M configuration sections arranged around the circumference of the cranial end of the tubular sleeve so as to form a flared cylindrical shape when unconstrained by a patient's anatomy, wherein a caudal opening of the flared cylindrical shape is larger in diameter than a cranial opening of the flared cylindrical shape such that when positioned within the patient's anatomy the caudal opening is larger in diameter than the cranial opening.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Porter	US 5,064,435	Nov. 12, 1991
Chuter	US 5,387,235	Feb. 7, 1995
Quiachon	US 5,824,044	Oct. 20, 1998
Yadav	US 6,083,258	July 4, 2000
Lazarus	US 6,165,214	Dec. 26, 2000

REJECTIONS

I. Claims 19–24, 35, and 36 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Final Act. 2–3.

II. Claims 25–33 and 37–39 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2–4, 7–12, 15, and 17–21 of Application No. 13/075,532. *Id.* at 3–4.

III. Claims 19–24 stand rejected under 35 U.S.C. § 102(b) as anticipated by Chuter. *Id.* at 5–6.

IV. Claims 19–24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chuter and Porter. *Id.*

V. Claims 25–27, 30–32, and 35–38 stand rejected under 35 U.S.C. § 102(b) as anticipated by Quiachon. *Id.* at 6–7.

VI. Claims 28, 29, 33, and 34 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav. *Id.* at 7.

VII. Claim 39 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Lazarus. *Id.* at 7. *Id.* at 7–8.

OPINION

Rejection 1

Claims 19–24

Claim 19 recites that "a plurality of M configuration sections [are] arranged . . . so as to form a flared cylindrical shape when unconstrained by a patient's anatomy" and that "a caudal opening of the flared cylindrical shape is larger in diameter than a cranial opening of the flared cylindrical shape." Appeal Br. 22 (Claims App.). The Examiner finds that these claim

features, added by amendment, were not described in the Specification in such a way as to reasonably convey that a person of ordinary skill in the art had possession of the claimed invention at the time the application was filed. Final Act. 2–3.

Appellant argues that Figure 13N illustrates a side elevational view of a device in which the left side has a smaller diameter than the right side, and that "[t]he left side . . . in Figure 13N corresponds to the structure shown at the top of Figure 13U", which is the cranial end. Appeal Br. 14. Appellant, therefore, states that "the [S]pecification clearly discloses the flared cylindrical shape (e.g., Figure 13N) and that the caudal opening is larger than the cranial opening (Figure 13U)." *Id.* The Examiner responds that the "diameter difference, if any, is not pronounced enough or clearly present." Ans. 5. The Examiner also responds that "Figure 13N is considered diagrammatic and not a literal picture of the device" because it "only shows half the struts because it only shows 6 of the 12 struts that would be present in a full ring or cylinder." *Id.*

To satisfy the written description requirement, the Specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed subject matter as of the filing date. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562–63 (Fed. Cir. 1991). Specifically, the Specification must describe the claimed invention in a manner understandable to a person of ordinary skill in the art and show that the inventor actually invented the claimed invention. *Id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). One shows "possession" of the invention by describing the invention using such descriptive means as words, structures,

figures, diagrams, formulas, etc. that fully set forth the claimed invention. *Lockwood v. Am. Airlines, Inc.,* 107 F.3d 1565, 1572 (Fed. Cir. 1997). The issue of whether the written description requirement has been satisfied is a question of fact. *Wang Labs., Inc. v. Toshiba Corp.,* 993 F.2d 858, 865 (Fed. Cir. 1993).

Although "under proper circumstances, drawings alone may provide a 'written description' of an invention as required by § 112" (*see Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, 291 F.3d 1317, 1322 (Fed. Cir. 2002) (quoting *Vas-Cath Inc.*, 935 F.2d at 1565)), in this case, we find that the original disclosure does not reasonably convey to a skilled artisan that Appellant had possession of the claimed feature. The only support Appellant offers for the flared nature of the M configuration section is the "schematic side view[]" of Figure 13N (Spec. ¶ 31). Notably, neither Figure 13U nor the corresponding "schematic top view[]" of Figure 13G support that such an M configuration section is flared. In light of the schematic nature of the drawing of Figure 13N in which the feature in question is not particularly clear and/or pronounced and the fact that the corresponding drawings fail to support that the M configuration section is flared, we agree with the Examiner that the drawings do not reasonably convey to skilled artisans that Appellant possessed the claimed invention as of the filing date.

Accordingly, we sustain the Examiner's rejection of claims 19–24 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 35 and 36

Claim 35 recites that an M-stent formed by four struts connected end-to-end has a second apex formed by the "the second end of the second strut

. . . joined to the first end of the third strut" in which "the second apex [is] positioned above the first end of the first strut and the second end of the fourth strut." Appeal Br. 24 (Claims App.). Claim 36 recites that "an angle formed at the first apex between the first and second struts is different than an angle formed at the second apex between the second and third struts." *Id.* The Examiner finds that these features lack clear original support and "contradicts the original disclosure of Figures 13H to 13U that show equal length legs and equal angles between legs." Final Act. 2.

Appellant argues that "[o]ne of skill in the art would recognize that by referring to an 'M,' [Appellant] has identified a shape that includes different angles between the legs and/or shorter middle struts because such characteristics . . . are clearly recognized as associated with the shape of the letter 'M.'" Appeal Br. 11. Appellant asserts that the Specification and prosecution history distinguish M-shaped springs from V-shaped springs. *Id.* at 10 (citing Spec. ¶ 50, ll. 14–16). Appellant also asserts that Figure 9 as originally filed in the parent application (U.S. Patent Application No. 10/624,864) (hereinafter referred to as "the parent application") shows shorter middle struts (*Id.* at 11), as well as an arrangement in which angles opening toward the right side are different than angles opening toward the left side, or else the device would be illustrated as having a cylindrical configuration (*id.* at 13 (citing original Figures 13G, 13N, 13U of the parent application)).

The Examiner responds that an M configuration as opposed to a V configuration may instead refer to the number of struts between adjacent components, as opposed to necessarily providing any information regarding the lengths or angles of the struts. Ans. 3. The Examiner also finds that "the

capital letter 'M' has a middle or second apex that is not [necessarily] above the first end of the first strut and the second end of the fourth strut." *Id.* at 4. We agree with the Examiner that Appellant has not provided sufficient evidence to persuade us that mere reference to an "M" would be recognized by one of ordinary skill in the art as necessarily providing shorter middle struts or different angles between legs.

As to the alleged shorter middle struts in the original drawing figures of the parent application, we again agree with the Examiner's finding that "the difference, if any, is not clear or pronounced enough to say that it is inherently present." *Id.* As to the alleged different angle openings purportedly suggested by the original drawing figures of the parent application, the Examiner responds that "the wire is clearly a bendable material and can be bent in any angle within three dimensional space" and that "the orientation angle of view of the topmost strut pair in Figure 13N is different from that of the bottommost pair" thereby making it "not clear whether there is a flare or not." *Id.* We agree with the Examiner that Appellant has not provided sufficient evidence to persuade us that the non-cylindrical shape associated with original Figures 13G, 13N, 13U of the parent application necessarily means that the angles opening toward one side of the device are different than angles opening toward the other side of the device, as alleged by Appellant.

Accordingly, we sustain the Examiner's rejection of claims 35 and 36 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Rejection II

Claims 25–33 and 37–39 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2–4, 7–12, 15, and 17–21 of Application No. 13/075,532. *Id.* at 3–4. We decline to reach the rejection and leave it to the Examiner to determine whether it is still proper. *See Ex parte Moncla,* 95 USPQ2d 1884 (BPAI 2010) (precedential).[1]

Rejection III

The Examiner finds that Chuter discloses all of the limitations of independent claim 19, including, *inter alia*, M configuration sections arranged around the cranial end of the tubular sleeve so as to form a flared cylindrical shape, wherein the caudal opening of the flared cylindrical shape is larger in diameter than the cranial opening of the flared cylindrical shape. Final Act. 5. The Examiner's position is that the flared shape is illustrated in Figure 2, and that the flared shape would result in a larger caudal opening "if placed in such a[n] anatomical structure that flared outward in that location" and if following the graft's contour as illustrated in Figures 15 and 47. *Id.* at 5–6 (citing Chuter, col. 25).

Appellant argues that "it is clear from Figures 15 and 47 . . . that the top end or cranial end of the stent would include the barbs associated with the top end of the stent shown in Figure 2" (Appeal Br. 16) and that "the top (cranial end) of the stent [of Figure 2] is larger in diameter than the bottom (caudal end) of the stent, (i.e., the opposite to the arrangement claimed in [c]laim 19)" (*id.* at 15) (emphasis omitted).

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[1] Notably, a Notice of Abandonment was entered in connection with Application No. 13/075,532 on February 10, 2016.

The Examiner acknowledges that when "used in the fashion it is [intended to be] used," Chuter "does not show a larger caudal diameter." Final Act. 6. The Examiner, however, asserts that "one could reasonably call the bottom end [of the stent] the cranial end and the top end [of the stent] the caudal end, thereby making the caudal end of a wider diameter than the cranial end. Ans. 5.

We are not persuaded that it would be reasonable to call the bottom end of the stent the cranial end and the top end of the stent the caudal end. The terms "cranial" and "caudal" have specific meanings as anatomical terms of location that would be contrary to such a designation. Moreover, the manner in which the term "cranial" is used in connection with the tubular sleeve and with the M configuration section should be consistent. The claim itself requires the M configuration section (or stent) to be arranged at the cranial end of the tubular sleeve, and the Examiner points to the M configuration section (or stent) disposed at the top end of the tubular sleeve. Calling a bottom end of the M configuration section its cranial end would be inconsistent with calling a top end of the tubular sleeve its cranial end.

The Examiner alternatively responds that Figures 15 and 47 show an embodiment in which the bottom end of the stent is flared larger than the top end. Ans. 5–6 (citing annotated version of Figure 47 of Chuter). This feature is not adequately shown in the drawings to support the Examiner's findings by a preponderance of the evidence.

For the foregoing reasons, we do not sustain the rejection of claims 19–24 under 35 U.S.C. § 102(b) as anticipated by Chuter.

Rejection IV

The Examiner finds that "Porter teaches that it was known [in the art] to make stent[s] with flared ends that remain flared as a means to anchor the stent to the inside wall of the blood vessel." Final Act. 6 (citing Porter, Figs. 1–5, 3:27–39). The Examiner concludes that it would have been obvious to a person of ordinary skill in the art "to make the caudal end of the Chuter spring flare out against the anatomy as a way to better anchor it to the vessel or for the reasons explained by Porter." *Id.* (citing Porter, 3:27–39) (stating that "[t]he first and second ends have diameters greater than the first diameter when the stent is in the relaxed state, and when compressed tend to have a greater restoring force against the cavity wall segment, as compared to the remainder of the stent.").

Appellant initially argues that Chuter and Porter lack "M configuration sections" because neither teach "a shape that includes different angles between the legs and/or shorter middle struts . . . [which] are clearly recognized as associated with the shape of the letter 'M.'" Appeal Br. 17. We agree with the Examiner that the features relied on by Appellant are not clearly associated with an M configuration, and thus, are not claimed. *See* Ans. 7. Arguments must be commensurate in scope with the actual claim language. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

Appellant further argues that "at best, one of skill in the art in light of Porter would modify Chuter to include ends that flare in the opposite direction than the configuration of [c]laim 19" because "Porter discloses that these flared ends are useful to maintain a constant axial length in the stent." Appeal Br. 17 (citing Porter, 5:21–25). The Examiner responds "that the stent can follow the anatomy of the blood vessel" as taught by Porter and

"Chuter provides the anatomy where the bottom end of the stent would be larger because the anatomy is larger at the location adjacent the bottom of the stent." Ans. 7 (citing Porter, Fig. 5; Chuter, Figs. 15 and 47). Considering the Examiner's clarified reasoning, Appellant has not persuasively explained why the Examiner's articulated reasoning to modify Chuter—i.e., to make the caudal end of the Chuter stent follow the vessel anatomy of Chuter as shown by Porter in order to better anchor it to the vessel—lacks rational underpinnings.

For the foregoing reasons, we sustain the rejection of claims 19–24 under 35 U.S.C. § 103(a) as unpatentable over Chuter and Porter.

Rejection V

The Examiner finds that Quiachon discloses all of the limitations of independent claims 25 and 30, including V-shaped member 374 being the first attachment device, and "the stent sections from B1 to B3 and B3 to B5 of Figure 17" being the M springs. Final Act. 6.

Appellant argues that one of ordinary skill in the art "would not reasonably interpret Quiachon as disclosing stents [around] . . . 'an exterior perimeter of the tubular sleeve' or 'circumferentially around the tubular sleeve' as recited in [c]laims 25 and 30," respectively. Appeal Br. 19. Appellant points to the Specification which distinguishes an embodiment in which M springs 68 are located "on the exterior of the tubular sleeve 12" as opposed to "on the interior of the tubular sleeve 12." *Id.* (citing Spec. ¶ 50, Fig. 9). Appellant asserts that "Quiachon clearly discloses that the frame of Figures 17, 18, and 19 are positioned within the interior of the graft wall." *Id.* at 20 (citing Quiachon, 17:49–51) (emphasis omitted).

The Examiner responds that under the broadest reasonable interpretation of "around," springs that are merely "in the vicinity of something [and] not necessarily surrounding something" can meet this language, such that springs that are merely in the vicinity of the exterior perimeter are around the exterior perimeter. Ans. 7–8. Moreover, the Examiner asserts that "portions of the frame outside the graft of [Quiachon] are 'around' an exterior perimeter of the sleeve in that [they] extend[] over the perimeter." *Id.* at 8 (citing Quiachon, Fig. 19, element 270). The Examiner also asserts that "the V's at (400) extend outside the graft and these ends extend around the outside of the graft." *Id.* (citing Quiachon, Fig. 18, col. 18). The Examiner further asserts that "the sutures or stitches used to connect the stent and the graft can be considered part of the 'M configuration springs attached to the cranial end portion of the tubular sleeve' as claimed." *Id.* (emphasis omitted).

As to independent claim 25, which recites that the "M configuration springs . . . extend[] circumferentially around an exterior perimeter of the tubular sleeve" (Appeal Br. 23 (Claims App.)), we do not agree with the Examiner that an interpretation of "around" relating to being in the vicinity of something is reasonable under the circumstances. More particularly, an interpretation of "extending circumferentially around an exterior perimeter of the tubular sleeve" that would extend to a spring extending circumferentially around an *interior* perimeter of the tubular sleeve is not reasonable in this context. Moreover, certain discrete portions of the frame that extend over the perimeter or discrete sutures or stitches that are outside the graft do not meet the language of *extending circumferentially* around the exterior perimeter of the tubular sleeve, as required by the claim.

For the foregoing reasons, we do not sustain the rejection of independent claim 25, and claims 26, 27, and 37, which depend therefrom, under 35 U.S.C. § 102(b) as anticipated by Quiachon.

As to independent claim 30, which recites that the "M stent . . . extend[s] circumferentially around the tubular sleeve" (Appeal Br. 23 (Claims App.)), we are not persuaded that Quiachon's stent sections from B1 to B3 and B3 to B5 cannot be considered as extending circumferentially around the tubular sleeve because they are positioned within the interior of the graft wall. We determine Appellant's argument is not commensurate in scope with the actual claim language. *Self*, 671 F.2d at 1348.

For the foregoing reasons, we sustain the rejection of claim 30 under 35 U.S.C. § 102(b) as anticipated by Quiachon. We also sustain the rejection of claims 31, 32, 35, 36, and 38, which depend therefrom, and for which Appellant relies on the same arguments and reasoning we found unpersuasive. Appeal Br. 18–20.

Rejection VI

Claims 28, 29, 33, and 34 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav. Final Act. 7. Claims 28 and 29 depend from independent claim 25. Appeal Br. 23 (Claims App.). The rejection of these claims relies on the Examiner's erroneous findings as to Quiachon with respect to independent claim 25. Final Act. 7. The Examiner does not explain how Yadav might cure this underlying deficiency. Accordingly, we do not sustain the rejection of claims 28 and 29 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav.

Claims 33 and 34 depend from independent claim 30. Appeal Br. 24 (Claims App.). Appellant's arguments in support of the patentability of

claims 33 and 34 relate to the perceived deficiencies in Quiachon in connection with independent claim 30. *Id.* at 20. Because we have found no such deficiencies in Quiachon with respect to independent claim 30, we are not persuaded of error in the Examiner's rejection of dependent claims 33 and 34. Accordingly, we sustain the rejection of claims 33 and 34 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav.

Rejection VII

Claim 39 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Lazarus. Final Act. 7–8. Appellant's arguments in support of the patentability of claim 39 relate to the perceived deficiencies in Quiachon in connection with independent claim 30. Appeal Br. 21. Because we have found no such deficiencies in Quiachon with respect to independent claim 30, we are not persuaded of error in the Examiner's rejection. Accordingly, we sustain the rejection of claim 39 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Lazarus.

DECISION

The Examiner's decision to reject claims 19–24, 35, and 36 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement is affirmed.

We decline to reach the provisional rejection of claims 25–33 and 37–39 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2–4, 7–12, 15, and 17–21 of Application No. 13/075,532.

The Examiner's decision to reject claims 19–24 under 35 U.S.C. § 102(b) as anticipated by Chuter is reversed.

The Examiner's decision to reject claims 19–24 under 35 U.S.C. § 103(a) as unpatentable over Chuter and Porter is affirmed.

The Examiner's decision to reject claims 25–27 and 37 under 35 U.S.C. § 102(b) as anticipated by Quiachon is reversed.

The Examiner's decision to reject claims 30–32, 35, 36, and 38 under 35 U.S.C. § 102(b) as anticipated by Quiachon is affirmed.

The Examiner's decision to reject claims 28 and 29 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav is reversed.

The Examiner's decision to reject claims 33 and 34 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Yadav is affirmed.

The Examiner's decision to reject claim 39 under 35 U.S.C. § 103(a) as unpatentable over Quiachon and Lazarus is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART